

From: Richard Fetzer/R3/USEPA/US
Sent: 9/11/2012 1:37:03 PM

To: "David Kappelman" <Kappelman.David@epamail.epa.gov>; Marcos Aquino
CC: "heston.gerald@epa.gov" <heston.gerald@epa.gov>; "Richard Rupert"
<Rupert.Richard@epamail.epa.gov>; "Kelley Chase" <Chase.Kelley@epamail.epa.gov>
Subject: Fw: Harvard Law Center correspondence on WMGR064

FYI. John has referenced our Dimock residential water quality radiological data to make his point in comparison only for another location.

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----- Forwarded by Richard Fetzer/R3/USEPA/US on 09/11/2012 01:35 PM -----

From: Mellow5n2@aol.com
To: Richard Fetzer/R3/USEPA/US@EPA, grushki@hotmail.com
Date: 09/06/2012 01:57 PM
Subject: Fwd: Harvard Law Center correspondence on WMGR064

FYI

From: Mellow5n2@aol.com
To: dlapato@state.pa.us
CC: oscette@ptd.net, amshelby@ptd.net, encores@aol.com, dcs@damascuscitizens.org
Sent: 9/6/2012 11:42:30 A.M. Eastern Daylight Time
Subj: Harvard Law Center correspondence on WMGR064

Thank you for the telephone conversation this afternoon. I will organize a letter that summarizes the specific issues and correspondences and emails over the last approximate two years as discussed on the Hazleton Creek Properties site. I have copied representatives of the Hazleton groups SUFFER and CAUSE on this email so they are aware of my attempt to get these letters/emails addressed and note that they are free to agree or disagree that my concerns are separate from the past (and completed) litigation. I have also copied representatives of the Gas Drilling Awareness Coalition and Damascus Citizens that I have discussed issues in the past (and the state has wasted money investigating activities) due to the Marcellus concerns. It will take a few days to get this letter out and the objective of this email is a separate concern regarding the Harvard Law School Emmett Environmental Law & Policy Clinic dated November 16, 2011 correspondence on General Permit WMGR064. These comments were specifically on using natural gas well brines for dust suppression and road stabilization. This letter can be found at: <http://www.law.harvard.edu/academics/clinical/elpc/publications/elpc-comments-on-wgmr064-final-11.16.11.pdf> . This link provides the full 56-page correspondence with attachments. I was curious and contacted one of the authors of this letter and she noted that PADEP had not responded to this very detailed letter.

In our telephone conversation you were not aware of any use of Marcellus wastewater being utilized on public roads. Please note that this Harvard Law Center correspondence has the PADEP Form 26 R Annual Report by a generator. In this case, the generator is Ultra Resources natural gas wells in Tioga County. The following is copy/pasted from this form:

"Ultra generated produced water from the Marshlands Unit #1 and Marshlands Unit #2 wells in 2009. Approximately 193,788 and 16,800 gallons of produced water were disposed from the Marshlands Unit #1 and Marshlands Unit #2, respectively."

It would seem if the question: "Has any Marcellus wastewater been used for beneficial reuse for deicing or dust suppression?" could be answered negative on the logic that the "beneficial reuse" box is not checked at six dust suppression locations. However, this seems to be from drilling in the Marcellus formation and would be brines from Marcellus and other formations, and any additives used during the initial drilling of these Marcellus exploration wells. The waste description (defined as wastewater by PADEP and the generator) is from drilling activities as stated in the Waste Description section:

SECTION B. WASTE DESCRIPTION
Residual Residual Waste Unit of Time

Waste Code Code Description Amount Measure Frame
801 Drilling Fluids, Residuals (Produced Water) 193788

During our conversation it appears that it was stated there was no use of this type of water for dust suppression. Yet, in the Form 26 it appears that six locations have already received this wastewater if I am reading this form correctly. It would appear that the following locations have already used this water for dust suppression:

Richmond Township for dust suppression	101,640 gallons
Troy Township for dust suppression	6,300 gallons
Delmar Township for dust suppression	5,460 gallons
Jackson Township for dust suppression	6,300 gallons
Clymer Township for dust suppression	6,048 gallons
Elk Township for dust suppression	3,780 gallons
Tioga Township for dust suppression	12,600 gallons
Covington Township for dust suppression	6,300 gallons
Roseville Borough for dust suppression	6,972 gallons

Again feel free to point out if I am not reading this form correctly but seems that just this one attached annual report from one company and one drilling location (two wells) might imply this might be even more common ("tip of iceberg" on what has already been placed on roads or other public locations?) that many would suspect.

The second part of this email concerns the attached analysis from one of the two wells and may represent very limited data. On the potential threat to public health and environment, please note that attached analysis and consider some of the concentrations just on a cursory personal review of this data.

Barium 1,160 parts per million

Lead 0.31 parts per million or 310 parts per billion (consider 15 parts per billion is drinking water advisory)

Lithium 145 parts per million (this is not even common in my experience in groundwater)

Molybdenum 0.44 parts per million or 440 parts per billion

Strontium 4,280 parts per million (this may be of serious concern and seems very high)

The field pH was slightly acidic (5.8) although quite a bit of calcium in the water. Typically high calcium might be expected to put the wastewater on the slightly alkaline (7.0 or above) side of the pH scale. Note that some of the above analysis is dissolved (field filtered prior to analysis) and some is total metals.

There are detections of volatile organic compounds (VOCs) and tentatively identified organic compounds (TICS) that would be difficult to determine concerns based on only one sample.

HOWEVER, the most eye opening part of this limited analysis was the radiological parameters. While I would not be surprised at single digit or even an occasional few hundred picocuries per liter (a small but conventional concentration unit) in samples some of these were in the tens of thousands of picocuries per liter. Note the Gross Alpha, Gross Beta, and Radium 226 and 228 concentrations. I would suspect that radiological parameters at this magnitude should be of some concern used at public locations with no monitoring. Even natural deep marine shales can have significant natural concentrations that are not common (or close to background) to surface formations. It would seem to be prudent that the above concentrations of this limited analysis should be questioned on placing this on public roads and areas. Other reviewers might find other parameters that are also questionable and I only pointed a few that seemed to really stand out.

Please note that the controversial Dimock data samples by U.S. Environmental Protection Agency (EPA) are available (www.epaosc.org) on the U.S. Environmental Protection Agency On Scene Coordinator website. The Dimock radiological samples are analyzed by Summit Analytical Lab and were collected January/February 2012). A review of the Dimock Radiological Data Weeks 1 - 5 and 1st Round Supplemental Data (53 pages) shows alpha, beta, Radium-226, and Radium-228 typically in single digit picocuries per liter with almost all of the Dimock analysis under 100 picocuries per liter. Yet the analysis included in the Harvard Law Center letter shows analysis (12/30/2009 collection date) for one of the two wells with PADEP apparently having no problem with radiological parameters over 10,000 picocuries per liter being utilized on public roads. **A notable example is Lab ID 0917259 01 that had a gross alpha of 10356.0 +/- 2186.0 picocuries per liter, gross beta of 11595.0 +/- 723.0 picocuries per liter, Radium-226 of 892.0 +/- 32.2 picocuries per liter, and Radium-228 of 2589.0 +/- 128.0 picocuries per liter.** It would have seemed technically logical to be concerned on these relatively high concentrations before being utilized on public roads.

Again, there is the possibility that my interpretation of the Form 26R is not correct, but seems straightforward on annual volumes and locations. The Harvard Law Center also has concerns on the radiological parameters and the lack of general testing for these parameters that has not been addressed. Thank you for any clarifications on my concerns and information on how this referenced Harvard Law Center correspondence was addressed by PADEP.